

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. \_\_\_\_\_

WASTE DISCHARGE REQUIREMENTS  
FOR  
CHICO REDEVELOPMENT AGENCY  
FOR  
POST-CLOSURE MAINTENANCE OF  
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT  
BUTTE COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board) finds that:

1. Waste Discharge Requirements (WDR) Order No. R5-2004-0088, adopted by the Regional Water Board on 9 July 2004, prescribes requirements for Humboldt Road Burn Dump Operational Unit (Unit).
2. Chico Redevelopment Agency (hereafter Discharger), owns and operates the Unit on part of Assessor's Parcel Number (APN) 018-500-015 (formerly APN 011-030-015).
3. The Unit is located along Humboldt Road, approximately two miles east of the intersection of State Routes 32 and 99 in Chico, in Section 29, T22N, R2E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order. The Unit consists of one landfill covering about 9 acres as shown in Attachment B, which is incorporated herein and made part of this Order.
4. In December 2006, the Unit was closed in accordance with the applicable sections of Title 27, California Code of Regulations (CCR). The purpose of this Order is to rescind WDR Order No. R5-2004-0088 and prescribe post-closure maintenance requirements for the Unit.

**WASTE DESCRIPTION AND UNIT CLOSURE**

5. The Unit contains approximately 310,000 cubic yards of compacted Humboldt Road Burn Dump (HRBD) waste from the Unit and waste from adjacent land, consolidated in the Unit. These wastes include broken glass, bottles, rusted metal, concrete rubble, rocks, soil, and burn ash with elevated concentrations of heavy metals. Lead is the predominant waste constituent of concern. Laboratory analysis of samples collected from waste of the adjacent parcels indicates that some heavy metal concentrations exceed hazardous waste criteria. However, extraction tests show that the wastes in the Unit are not soluble to the extent that they pose a threat to groundwater. The limited mobility and the natural geologic formations are considered adequate for protecting groundwater quality; however, constituents in the waste could threaten beneficial uses and water quality of surface water during the post-closure maintenance period if not adequately contained.

6. In October 2004, the Discharger submitted a Remedial Design Report for the Unit. Construction activities occurred over two years. From June to September 2005, approximately 65,000 cubic yards of identified burn ash and waste debris were removed from APN 002-180-087, APN 002-180-088, APN 002-180-089, APN 002-180-095, APN 011-030-015, and APN 011-030-137, transported, and consolidated with existing Unit waste. The compacted waste was covered with 12 inches of sand and a 40-mil double-sided textured linear low density polyethylene (LLDPE) synthetic liner. A passive gas extraction system, leachate collection and removal system (LCRS), and temporary storm water diversion structures were installed to prevent potential water quality impacts.
7. In June 2006, construction activities resumed. Following inspection and testing of the LLDPE liner, a geo-composite drainage layer was installed followed by 24 inches of compacted clean soil planted with native grasses. Other activities included; improving the three passive gas vents, constructing a permanent storm water drainage system, deepening the LRCS monitoring sump, and installing an access road along the west and northwest Unit perimeter. Two permanent survey monuments were installed, one at the peak and the other at the southwest Unit corner. In December 2006, Unit construction was complete.
8. On 19 March 2007, Regional Water Board staff approved the Unit *Construction Quality Assurance Report*. In April 2007, the Discharger constructed a permanent fence around the Unit and installed an additional monitoring well (MW-4) to complete the existing groundwater detection monitoring system (MW-1 and MW-2).
9. The Discharger is required to maintain financial assurance mechanisms for corrective action and post-closure maintenance of the Unit. On 29 August 2008, Discharger and Regional Water Board staff signed a Pledge of Revenue agreement in the amount of eight-hundred thousand dollars (\$800,000) for 30-years of Unit corrective action and post-closure maintenance. The Pledge of Revenue is a financial assurance mechanism that complies with the requirements of Title 27 CCR.
10. At the request of the Discharger, on 6 January 2009, Butte County recorded a *Covenant to Restrict Use of Property, Environmental Restriction* (Deed Restriction) for APN 018-500-015. The Deed Restriction is a requirement of WDR Order No. R5-2004-0088 which runs with the land, identifies the exact location of the Unit, and restricts activities that may adversely impact the integrity or performance of the Unit.

## **SITE DESCRIPTION**

11. The Unit is located along the westernmost slope of the Sierra Nevada foothills. It is underlain by highly cemented deposits of an unnamed "fanglomerate" present throughout a wide area along the foothills east of Chico. In general, the fanglomerate contains only occasional stringers or lenses of granular material within a very low permeability matrix of volcanic ash and other related materials. Groundwater yields within these lenses tend to be small. Deeper granular and volcanic units of the underlying Tuscan Formation, however, form more significant groundwater aquifers.

12. The measured hydraulic conductivity of the native soils underlying the Unit ranges between  $0.5 \times 10^{-4}$  cm/sec and  $1.5 \times 10^{-4}$  cm/sec as measured during aquifer testing of MW-1 and MW-2. Tests on these wells indicate the water bearing zones are of limited extent and volume.
13. The closest Holocene fault, the Cleveland Hill Fault, is approximately 27 miles to the south-southeast. Recorded magnitudes of seismic events along these faults range between 5.7 and 6.4 on the Richter scale. The maximum credible acceleration for the site is 0.45 to 0.60 g.
14. Land uses within 1,000 feet of the Unit are zoned residential, commercial, and open space. Humboldt Road Private Properties Operational Unit, another closed HRBD landfill, is immediately east of the Unit. A junior high school is located less than a half-mile west of the Unit.
15. The Unit is located within the City of Chico, which receives an average of 26.4 inches of precipitation per year. The estimated pan evaporation rate for the Sacramento Valley, including the western half of Butte County, is 64 inches per year. The average evapotranspiration rate for pasture and grassland is approximately 52 inches per year.
16. The 100-year, 24-hour precipitation event for the land is estimated to be 5.5 inches. The maximum 100-year annual precipitation is over 50 inches per year.
17. The estimated 100-year flow in the reach of Dead Horse Slough that passes on the north side of the Unit is 400 cubic feet per second (cfs), based on the Federal Emergency Management Agency's 100-year peak flow calculations. Based on an estimate of the slope and cross section of Dead Horse Slough below the Unit, the water surface will be approximately 50 feet wide at a flow of 400 cfs. The toe of the Unit is approximately 100 feet from Dead Horse Slough.
18. Based on information provided in the *June 2001 Remedial Investigation Report, Geology and Groundwater, HRBD*, four domestic water supply wells are within ½ mile of the Unit, with a well on APN 002-180-083, which has been inactive for many years, being the closest.

## **SURFACE AND GROUNDWATER CONDITIONS**

19. The *Water Quality Control Plan for the Sacramento River and the San Joaquin River Basin, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
20. Surface drainage is toward Dead Horse Slough, an ephemeral drainage that is tributary to Little Chico Creek, in the Butte Basin Hydrologic Area (520.40) of the Sacramento Hydrologic Basin.
21. Consistent with the Basin Plan and applicable state and federal law, the beneficial uses of Dead Horse Slough are identified based on the designated uses for the Sacramento

River, to which Dead Horse Slough is tributary, via Little Chico Creek, and include domestic and municipal supply, agricultural supply, industrial service supply, water contact and non-contact recreation, warm and cold freshwater habitat, wildlife habitat, groundwater recharge, and freshwater replenishment.

22. Shallow groundwater occurs in discontinuous water bearing zones in the site bedrock. Seasonal recharge from Dead Horse Slough appears to affect the depth to water measured in monitoring wells constructed adjacent to the Unit.
23. The designated beneficial uses of groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.

### GROUNDWATER MONITORING

24. Three monitoring wells (MW-1, MW-2, and MW-4), shown in Attachment B, are used to determine groundwater quality adjacent to the Unit. MW-1 and MW-2 were installed in 1992 as part of the HRBD Solid Waste Assessment Test (SWAT). A third boring was drilled 1992 to a depth of 108 feet bgs at the site but groundwater was not encountered and a well was not completed. MW-4 was installed in 2007. Soil boring (SB-3) was also drilled in 2007 but was destroyed because no moisture or lithology with the potential to transmit groundwater was observed. Although very moist sand was encountered at depths below 75 ft bgs while drilling SB-4, monitoring well (MW-4) has been dry since construction. The monitoring well construction details are described in the following table. Monitoring of the wells satisfies the requirements for a detection monitoring program contained in Title 27 CCR Division 2. Three additional wells have been completed on the property to the east. Only one of these wells (MW-5) encountered groundwater and was screened from 24 ft bgs to 44 ft bgs. Wells MW-6 and MW-7 were drilled to 80 ft bgs and 100 ft bgs but groundwater has not been observed in these wells.

Well ID	Date Completed	Type	Top of Casing Elevation (MSL)	Depth (ft bgs)	Screen Interval (ft bgs)	Depth to Water (ft)
MW-1	05/1992	Monitoring well	266.95	39	23.75 to 38.75	11 to 24
MW-2	05/1992	Monitoring well	254.91	56	35 to 55	30 to 44
SB-3	n/a	Soil Boring	n/a	108	n/a	n/a
MW-4	04/2007	Monitoring well	275.57	100	77 to 92	dry

MSL = Mean Sea Level

ft bgs = feet below ground surface

n/a = not applicable

25. The HRBD Remedial Investigation and Remedial Action Plan identified antimony, arsenic, and lead as the metal constituents of concern in the waste material that has been consolidated in the Unit. The same report also identified calcium, sulfate, and nitrate as soluble constituents within the waste material. Concentrations of total dissolved solids, including nitrate and sulfate, in groundwater monitoring wells MW-1 and MW-2 have generally decreased since Unit closure. However, the shallow

groundwater samples have detected total dissolved solids, nitrate, and sulfate at concentrations exceeding Regional Water Board Basin Plan objectives for drinking water or agricultural use. No dissolved antimony, arsenic, lead, cyanide, volatile or semi-volatile organic compounds, pesticides, herbicides, or dioxin have been detected in the MW-1 and MW-2 groundwater samples. This Order reduces the analyte list for the detection monitoring program.

26. Leachate is collected near the northwesterly toe of the Unit and directed to a collection sump. Between March and July 2006, 850 gallons of liquid was removed from the leachate sump, transferred to a temporary tank, sampled, and discharged to the City of Chico Water Pollution Control Plant. In November 2006, the collection sump depth was increased from 5 feet to 7 feet 5 inches. Since completion of Unit construction, the sump has contained about 2 feet of liquid and 3 feet of remaining freeboard. This Order specifies the Discharger maintain 2 feet of freeboard in the leachate collection sump.

### **CEQA AND OTHER CONSIDERATIONS**

27. The action to revise waste discharge requirements for this existing Unit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.
28. This Order implements:
  - a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*; and
  - b. The prescriptive standards and performance goals of Title 27 CCR Division 2, Subdivision 1, Chapters 1 through 7, effective 18 July 1997, and subsequent revisions.
29. Section 13267(b) of the California Water Code provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."
30. The technical reports required by this Order and attached Monitoring and Reporting Program No. \_\_\_\_\_ is necessary to assure compliance with these waste discharge requirements. The Discharger owns the property where wastes have been discharged and is subject to this Order.

## **PROCEDURAL REQUIREMENTS**

31. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
32. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written comments.
33. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.
34. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23 CCR. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of adoption of this Order. Copies of the law and regulations applicable to the filing of a petition are available on the Internet at [http://www.waterboards.ca.gov/laws\\_regulations/](http://www.waterboards.ca.gov/laws_regulations/) and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. R5-2004-0088 is rescinded, and that Chico Redevelopment Agency, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

### **A. PROHIBITIONS**

1. The Unit is closed and all waste disposal activities are therefore prohibited.
2. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

### **B. DISCHARGE SPECIFICATIONS**

1. The Discharger shall contain the waste within the closed Unit at all times.
2. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements. Since the groundwater occurs in discontinuous lenses that do not appear to be in hydraulic communication, an intra-well test will be conducted to evaluate trends in the monitoring results, such as the Mann-Kendall Test for an Upward Trend.

### C. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall immediately notify the Regional Water Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions, which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.
3. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with this Order.
4. The freeboard (depth to liquid) in the leachate collection sump shall not be less than two feet, except if lesser freeboard does not threaten the integrity of the sump and no overflow of the sump occurs.
5. The Discharger shall maintain a minimum three percent grade across the entire final cover system of the Unit.
6. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.
7. The Discharger shall maintain assurances of financial responsibility for post-closure maintenance in the amount of the cost estimates in the approved post-closure maintenance plan or in an amount approved by the Regional Water Board.

### D. PROVISIONS

1. The Discharger shall comply with Monitoring and Reporting Program No. \_\_\_\_\_, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
2. The Discharger shall maintain a copy of this Order at the Unit, or at the Discharger's office, and make it available at all times to maintenance personnel, who shall be familiar with its contents, and to regulatory agency personnel.
3. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
4. In the event the Discharger does not comply or will be unable to comply with any prohibition or specification of this Order for any reason, the Discharger shall notify the appropriate Regional Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

5. The Discharger shall comply with the applicable sections of Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.), dated April 2000, which are hereby incorporated into this Order.
6. All reports and transmittal letters shall be signed by persons identified below:
  - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
  - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
  - d. A duly authorized representative of a person designated in a, b or c above if;
    - 1) The authorization is made in writing by a person described in a, b, or c of this provision;
    - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
    - 3) The written authorization is submitted to the Regional Water Board.
  - e. Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”
7. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
8. The owner of the Unit shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from leachate generated by discharged waste during the post-closure maintenance period of the Unit and during subsequent use of the land for other purposes.



9. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Water Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Water Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Water Board.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_.

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PAMELA C. CREEDON, Executive Officer

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02/04/2009